

in the Collie-Williams area were much younger. It seems likely that southerly invasion is timed to coincide with the state of growth of host plants.

Western Australia is clearly an area in which detailed studies on the movements of *V. kershawi* could be made; this note is published with the hope that further observations will be made and recorded on migration of this and other species in the State, for which very few insect migration records have been published.

REFERENCES

- Smithers, C. N. 1969. A note on migration of *Vanessa kershawi* (McCoy) (Lepidoptera: Nymphalidae) in Australia, 1963-1968. *Aust. Zool.*, 15 (2): 188-194.
- Smithers, C. N. and Peters, J. V. 1966. A migration of *Vanessa kershawi* (McCoy) (Lepidoptera: Nymphalidae) in Australia. *J. Ent. Soc. Qd.*, 5: 67-69.

MECOPTERA AS VECTORS—A NEW RECORD

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The Order Mecoptera, in Australia, consists of some twenty species distributed in eight genera (Bornemissza, 1966, and Riek, 1954). In the adult stage they are slender, slow flying predators of soft bodied insects, e.g. bees, flies (Bornemissza, 1966). The largest and most widespread genus is *Harpobittacus* (fig. 1).

A note of blossom visitation by *Harpobittacus australis* was found in Riek (1970). He states that adults of this species obtain prey and nectar from flowers of a *Leptospermum* sp. at their emergence sites in Eastern Australia. He indicates that later in the season more species may be visited, but no details are given. From personal observations in Western Australia the author doubts that *Harpobittacus* would be likely pollinators of *Leptospermum*; bees, wasps and flies are the major visitors.

No other records of blossom visitation could be obtained from the scattered Australian (e.g. Hamilton, 1919) or overseas literature (Faegri and Van der Pijl, 1971; Knuth, 1909 and Percival, 1965) on pollination. However, two other records were found in unpublished data. Symmington (1963) noted that *Harpobittacus similis* visits *Calectasia cyanea* R.Br. (Xanthorrhoeaceae). However, the author would consider that these visits are to obtain prey, since larval instars of a lygaeid bug were also found in these flowers, and Anway (1969) noted that *C. cyanea* is autogamous, pollination occurring in the bud stage. Kenneally (1970) has observed *Harpobittacus* sp. visiting flowers of *Diplopeltis huegelii* Endl. (Sapindaceae). These were noted to be obtaining nectar from male flowers.

The author has noted adults of *H. similis* actively foraging in the floral heads of *Podolepis lessouii* (Cass.) Benth. (Asteraceae) at Regans Ford and Jurien Bay. Also adults of this species have been observed systematically visiting the floral heads of *Eryugium pinnatifidum* Bunge (Apiaceae) at Cockleshell Gully (N. of Jurien Bay) and Yanhep. This is shown in fig. 2, a drawing from a kodachrome.



Fig. 1.—Adult of *Harpobittacus similis*.

All the animals observed had a dusting of pollen over their heads and proboscises. No insects were found in the flowers, although many species visit these flowers. Nectar was, however, freely available and contact with the stigma was noted in both cases.

These, therefore, would appear to be the first records of members of this order as vectors. Since they are present in vast numbers during spring many small herbs and annuals in flower during this period may utilize these insects as vectors. Especially members of the families Apiaceae and Asteraceae (Composites) which are known to be promiscuously pollinated, e.g. Heywood (1971). More studies are needed to assess the importance of this genus to our native flora.



Fig. 2.—Adult *H. similis* foraging in floral head of *Eryngium pinnatifidum*.

REFERENCES

- Anway, J. C. 1969. The evolution of *Calectasia cyanea* R.Br. (Xanthorrhoeaceae) in terms of its present day variation and cytogenetics. *Aust. J. Bot.*, 17, 147-159.
- Bornemissza, G. F. 1966. Observations on the hunting and mating behaviour of two species of Scorpion Flies (Bittacidae: Mecoptera). *Aust. J. Zool.*, 14, 371-382.
- Faegri, K. and L. Van der Pijl. 1971. *Principles of pollination ecology*. Pergamon Press, Oxford.
- Hamilton, A. G. 1919. Pollination of Australian plants. *Aust. Nat.*, 4, 75-86.
- Heywood, V. H. (ed.) 1971. The biology and chemistry of the Umbelliferae. Supplement 1. *Bot. J. Linn. Soc. Lond.*, Vol. 64.
- Kenneally, K. F. 1970. *Diplopeltis huegelii* Endl. var. *huegelii*. Unpub. biological flora. Botany Department, Univ. of Western Australia.

- Knuth, P. 1906. *Handbook of flower pollination*. Transl. J. Ainsworth Davis. Clarendon Press, Oxford.
- Percival, M. S. 1965. *Floral biology*. Pergamon Press, London.
- Riek, E. F. 1954. The Australian Mecoptera or Scorpion Flies. *Aust. J. Zool.*, 2, 296-307.
- Riek, E. F. 1970. Mecoptera. In *The Insects of Australia*, ed. I. M. MacKerras. Melbourne University Press. Pp. 636-646.
- Symmington, B. 1963. *Calectasia cyanea* R.Br. Unpub. biological flora. Botany Department, Univ. of Western Australia.

REPORT ON A VISIT TO DIRK HARTOG ISLAND, AUGUST-SEPTEMBER 1973, WITH SOME OBSERVATIONS ON THE FAUNA AND FLORA

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INTRODUCTION

Our visit to Dirk Hartog Island arose from a growing interest in the photography of the various Australian wren species. Since there had been little, if any, close up photography of the Pied Wren (*Malurus leucopterus*) which occurs only on Dirk Hartog and Barrow Islands, we chose this species as our special target for 1973.

WORKING AREA

It was initially decided to camp, and work, in the Quoin Bluff South area, thus gaining some benefit from observations made by R.A.O.U. members during their visit to Peron Peninsula in August-September 1972. (N.B. a closely similarly-named feature, Quoin Bluff North, is situated on Dorre Island, to N.E. of Dirk Hartog Island).

We were therefore fortunate in being able to establish our base at the Herald Bay Outcamp, situated midway between the Station homestead to the south and Sandy Point to the north, a total distance of about 35 kilometres, with Quoin Bluff as its focal point. The greater portion of our time was devoted to this area on the east coast, which includes mainly sandy country, with dense thickets of low scrub dominated by *Acacia*, *Diplolaena* and spinifex. In the vicinity of the Ten Mile Well, the vegetation is more open on flat ground. On the land rising to Quoin Bluff, ground cover consists almost entirely of dense low heath of *Thyryptomene* with some *Plectrachne* (one of the species of spinifex common at Dirk Hartog Island).

F. Lawson Whitlock apparently searched this same general area on foot in 1920. When referring to the Australian Bustard, he wrote ". . . I seldom walked from my camp to the homestead (10 miles!) without seeing a young male bird . . ." We felt that today's observer in this kind of terrain, could well be handicapped by the four-wheel-drive vehicle, which may explain perhaps, to some extent, the non-appearance or non-observance in 1973, of some species so well described by this ornithologist over 50 years previously.

FLORA

Wildflowers appeared to be plentiful after a better than average winter rainfall. The following species were in flower and were photographed:

- Abutilon oxycarpum* F. Muell.
- Brachycome latisquamea* F. Muell.
- Brachycome iberifolia* Benth.
- Calythrix strigosa* A. Cunn.
- Diplolaena grandiflora* Desf.
- Erenophila glabra* (R.Br.) Ostf.
- Halgania littoralis* Gardn.
- Jasminum calcareum* F. Muell.